

# THE ZOOLOGIST

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No. 886.—April 15th, 1915.

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## ORNITHOLOGICAL REPORT FOR NORFOLK (1914).

By J. H. GURNEY.

(Assisted by Members of the Norwich Naturalists' Society.)

IN spite of the valuable notes which local naturalists are always good enough to contribute to this annual Report, Norfolk ornithology for the year 1914 is represented by but a meagre budget. The Waxwing invasion soon spent itself; it created some excitement while it lasted, but all about the so-called "harbingers of famine" has been pretty well chronicled. They continued to be fairly numerous during January and February, but none were seen later than April 5th (R. Colman), by which time most of them were probably dead. They were even more abundant in Belgium, but no single flight either there or in England equalled what were seen in Toul, in Eastern France ('Revue Fran. d'Orn.' 1914, p. 315).

*The Spring Migration.*—I was in the south of France with my son in April watching Bee-eaters and White-winged Terns, and therefore had no opportunity of recording the arrival of spring migrants in Norfolk, yet I could not fail to remark one thing, which has struck me before, *viz.* how very little difference there is in the dates of their arrival on the shores of the Mediterranean, and the shores of the English Channel. The passage through France of such birds as Swallows, Nightingales, Redstarts, Cuckoos, Warblers, Whitethroats, and Flycatchers must be performed in a very few days—that is certain. But although I was absent, the Rev. M. C. Bird, of Brunstead, kept

notes as usual, with which he has been good enough to favour me. These were only normal, but the incoming of migratory Rooks in February and the great flight of Starlings in March were abnormal.

*The Breeding Season (Cormorant, Spoonbill, Little Owl).*—The principal event which the breeding season was remarkable for was the nesting of a pair of Cormorants on a lake of Lord Hastings', in the north of Norfolk. This event carries us back to the sixteenth century, when William Turner wrote (in 1544) that he had himself seen them nesting "in Northfolcia cum ardeis in excelsis arboribus." When this ceased we cannot say, at any rate we have no record of their breeding in Norfolk since the seventeenth century (Sir Thomas Browne). When my father was a boy, there was a small colony of Cormorants at Fritton Lake in the north of Suffolk, but I do not think he ever visited them, although he alludes to the settlement in the 'Zoologist' for 1846 (p. 1382). His collection still contains a fine specimen in breeding plumage, which I imagine to be the same that he records as shot on this lake on April 4th, 1848 ('Zoologist,' vi. p. 2185). That a few pairs went on breeding, or trying to breed, as late as that is quite probable. Colonel H. M. Leathes implies that such was the case ('Unnatural Natural History Notes,' p. 57); and not many years ago a dead tree was still standing on his side of the lake, which, according to tradition, had been killed by their excrement.

In 1879 Lady Crossley's decoyman was positive that no Cormorants had nested either at Fritton or Herringfleet for many years, or at least in his recollection, but with protection they might probably be induced to return.

In the opinion of the late Professor Newton, the Spoonbill was in former days in the fullest sense of the word a native of England, and there is no reason why it should not become so again. Accordingly, throughout the summer, protection has been afforded to any which had the good sense to avail themselves of a sanctuary on Breydon mud-flats. One longs for the time when a pair or two of these splendid birds may again breed at Reedham, where there is a wood admirably suited to them, in preference to the marshes of Holland. Mr. S. H. Long, who has recently been in that country, kindly obtained from the

Secretary of the Netherlands Protection Society some particulars about the laws enforced there, which are somewhat strict and require to be observed by visitors. It appears that for many years there have only been two, or at the most three, carefully watched Spoonbill settlements in Holland, which at the present time are situated as follows, *viz.*: one on the Naardermeer, near Amsterdam, where there were ninety protected pairs of Spoonbills nesting in 1913, and one at Zwanenwater, near Helder, where about a hundred and fifty pairs were nesting. I learn from Mr. Long that, by applying in the proper quarter, leave can be obtained to visit Zwanenwater, but Naardermeer is barred alike to natives and foreigners. Of the two places, Zwanenwater is slightly the nearest to Norfolk, its position on the map lying a little to the south-east of the latitude of Breydon.

Looking back some two hundred and fifty years, it is with a feeling of curiosity that we remember that in June, 1663, the botanical studies which John Ray was prosecuting with such vigour took him and his pupil Willughby to Holland, where they found Spoonbills breeding near a village called Sevenhuys, situated at four leagues (about thirteen miles) from Leyden, not in marshes but as they did in Norfolk, "in great numbers on the top of high trees" ('Ornithology,' p. 289). This settlement, from which the young Spoonbill described by Willughby was probably taken, has long since become extinct, for even in Pennant's time the wood where Willughby saw them breeding had been cut down ('British Zoology,' ii. p. 634). At the present day this would have been of less consequence, for trees do not seem to be required, piled-up reeds being preferred by European Spoonbills, which, like Herons, vary considerably in their habits. A somewhat fuller account of this visit to Sevenhuys, and of the four species, including the "Lepelaers," as Spoonbills were called in Dutch, found breeding there, is supplied by Ray in his journal of 'Travels through the Low Countries' (second edition, 1738, p. 33), one of the very few references to Natural History to be discovered in that somewhat disappointing volume.

Little Owls which had escaped the enemy were seen at Honingham by Dr. Deacon, near Swaffham by Mr. Buxton, and at Surlingham. This species, which was first introduced into

Norfolk by the late Earl of Kimberley, would undoubtedly breed in the country if it were not so persecuted.

The Rev. E. T. Daubeney finds that this Owl is partial to centipedes, and in the gizzard of one which was unintentionally trapped at Costessey, Mr. B. B. Riviere discovered only Beetles' wing-cases. A motion before the County Council to except this species from the Norfolk schedule of protected birds was not carried, which shows that it is not altogether without friends among our landowners, the majority of whom know that the good it does outbalances the killing of a few Pheasants. Indeed, an excellent plea in its defence may be made out by the admirers of this comical little Owl.

*The Autumnal Migration.*—It is many years since the East Coast has had an autumn when rarities have been scarcer; in fact, I doubt if there has been one in the forty-eight years during which I have been a contributor to the 'Zoologist.' This may be because some of our observers have gone to the war, but the commoner species have not come over the sea in the same bulk as in some years. On the other hand, on the Kentish coast, where a good observer was placed, migration seems to have run strong (see 'British Birds,' p. 226). As in former years, Mr. F. J. Richards, who watched the Norfolk coast to the west of Cromer, was careful to jot down full memoranda of both the wind and the birds, if there were any.

The wind was registered as north-east on September 5th, and it continued principally in that quarter up to the 10th, during which time, although constantly on the look-out, he did not see a single migratory bird of any rarity on the coast. On September 11th the wind shifted to south-west, and continued in that quarter until the 17th, but Mr. Richards saw absolutely nothing indicative of migration, either in the *Suæda* bushes or on the sandhills. The explanation probably was that the throng of Wheatears, Warblers, and Redstarts, as well as the usual Pied Flycatchers, Bluethroats, Barred Warblers, &c., had come to Norfolk before the 11th, and there being no head wind to delay them, had passed on to the south in the night unseen.

On September 18th Mr. Richards saw one solitary Redstart, the wind then blowing strongly from the north-west. After that day he saw nothing on the sandhills or among the *Suæda* bushes;



but on the 19th and 20th, with a very strong wind from the north, several Ducks were observed to pass. All this agrees with what can be gathered from more inland sources, and especially from the Broads.

Mr. Vincent considers it to have been the worst autumn season for many years for migratory Mallard in the neighbourhood of Hickling, although at one time Pochard showed up strongly, there being something like fifteen hundred on the Broad.

*The Winter Migration.*—The arrival of the Wood-Pigeons in December was viewed by our agriculturists with mixed feelings, for if this bird were to increase largely it would become a pest. That the Wood-Pigeon, which lays only two eggs, should be such an abundant species is somewhat of a marvel, but there are similar cases which might be cited; *e. g.* the Puffin lays only one egg, yet is so abundant that it is thought to be the dominant bird in Europe.

The absence of the Little Auk during the winters of 1913-14 and 1914-15 was as marked as was its superabundance in the two preceding years (*viz.* winters of 1911-12 and 1912-13). But what made it especially remarkable last winter was that on the Ross-shire coast there were thousands ('Scottish Naturalist,' 1915, p. 69). This erratic little diver comes and goes, but we are beginning to understand pretty well what governs its migrations, which often do not extend so far south as Norfolk.

*Absence of Rarities.*—The only rarities of this unproductive year worth calling attention to were a Bluethroat in June, a Grey-headed Wagtail in September, and a Little Bustard in October. Again, we had one or two Roseate Terns on the coast, which may possibly have had mates and bred.

A dagger (†) against the name of a species indicates, as before, that the recorder is responsible for its identification. Rainfall for 1914: 27·64 in. (E. Knight). Prevailing direction of the wind: west.

#### JANUARY.

1st.—Frost and snow; a Waxwing at Northrepps. On the surface of the grass the thermometer fell to 19°.

2nd.—[A Ruddy Shelduck taken at Blakeney, and in the course of the month Mr. Pashley received another† from Stiffkey,

but they may have been "escapes," although the second one was in perfect plumage.]

3rd.—A Black Redstart trapped at Hellesdon, near Norwich, is noteworthy on account of the inland locality.

19th.—Smew at Potter Heigham (E. C. Saunders). Two hundred Teal and two Water-Rails on some ponds near Holt.

31st.—Mistle-Thrushes treading at Brunstead. In a few days the hammering of the Nuthatch will be heard.

#### FEBRUARY.

1st.—Two Goosanders on Holkham Lake (S. H. Long), and later four came to Gunton Lake, where hungry Gulls watched them diving, hovering overhead in hopes of wresting a fish or two from them (G. Davey).

2nd.—Merlin † at Hellesdon (J. Berners), killed in mistake for a Wood-Pigeon; and another shown me by Dr. Long met its death in the same tragic way. Three Waxwings † at St. Giles's Gates.

6th.—Mr. Arthur Patterson reports the presence of four White-fronted Geese on Breydon Broad, to which Mr. Saunders adds a fifth, an unusually small bird.

7th.—Hawfinch † at Keswick and Gadwall on Rollesby Broad (H. Brownswood).

9th.—Barn-Owl † on a small Scotch fir, where, from appearances, it must have roosted some time.

14th.—Bittern booming (Miss Turner), weather fine and open, oats being sown. The next day there was a Chiffchaff, harbinger of spring, on Breydon "wall" (F. Chasen).

17th.—From now to March 2nd Mr. Chasen observed a marked arriving of Rooks, with Jackdaws and Hooded Crows, at Yarmouth and Caister, many being seen to come off the sea. During all this time the wind, with two exceptions, was west or south-west, so the Rooks must have been flying against it. This immigration of *Corvidæ* in February and March may perhaps be an annual one; at all events it has been noticed at Yarmouth before ('Zoologist,' 1912, p. 419, and 1913, p. 362), as well as at Lowestoft by Sir E. Newton and Dr. Ticehurst ('Norwich Nat. Trans.,' ix. pp. 422, 615), and at Aldborough. Here the late Dr. Fenwick Hele looked upon it as being the result of north-westerly winds (see 'Zoologist,' 1870, p. 2140),

as it certainly was in one case at Yarmouth ('Nature in Eastern Norfolk,' p. 148). It certainly is most singular that a westerly movement should be going on in the very month (*i. e.* March) in which thousands of Rooks and Crows are quitting Norfolk for the east, but it must, I think, be due to the wind.

18th.—At East Harling Sessions, Edward P —, a game-keeper, was charged with shooting a Bittern contrary to the Wild Birds Protection Act, and was fined 20s. and costs—a verdict which will no doubt meet with general approval.

26th.—A very mild day; a Thrush sitting on four eggs.† *Japonica* in flower. Bittern booming again (M. C. Bird).

This is the time when Mistletoe Thrushes begin to chase one another; in Norfolk this common bird always goes by the name of a *Fulfer*, literally a *farer* or *traveller* over fields (Anglo-Saxon *Fealo*, see Bosworth's 'Anglo-Saxon Dictionary'); but sometimes a discerning rustic will call it a *Dow Fulfer*, meaning that in its light colour it resembles a Ring-Dove. By right the name belongs to the Fieldfare (*Turdus pilaris*), and is misapplied by our country-folk.

#### MARCH.

4th.—Several Wigeon on Breydon Broad (G. Jary). The March passage of Wigeon used to be looked forward to by Yarmouth gunners, in the days when they might be shot, with some eagerness. The following memoranda are by the Watcher:—  
March 4th.—Several Wigeon. 7th.—About a hundred. 9th.—Nearly two hundred. 12th.—About two hundred. 16th.—Wigeon all gone. 19th.—Some have come back. 20th.—A few. 22nd.—All gone. 25th.—Wigeon back again. 27th.—Nearly three hundred. 28th.—More have come. April 2nd.—Not quite so many. 4th.—Shrinking every day. 6th.—Wigeon all gone, after which there are no more entries.

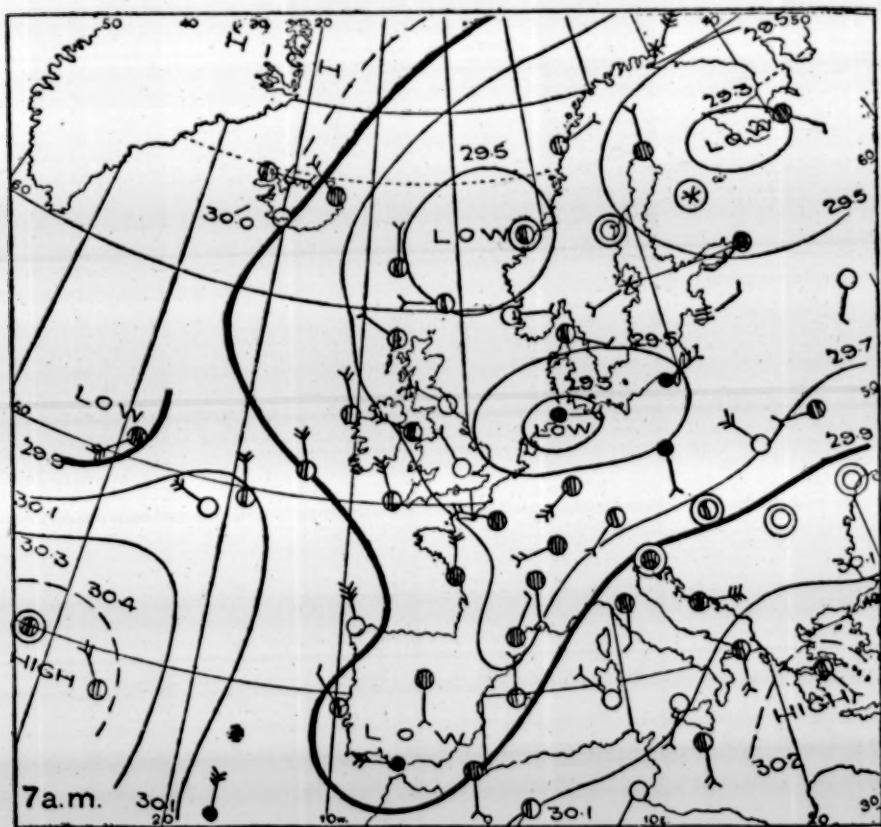
9th.—W.S.W., 2.\*—Flocks of Starlings, estimated by Mr. J. Vincent at over five thousand, came in from the sea, and were seen flying west at Horsey.

10th.—W.N.W., 4, at Yarmouth. A sharp fall of temperature in Western Europe, the severity of the drop being plainly shown by the published weather reports from Berlin, Paris, and London. In Norfolk we had showers of sleet, and my men had to stop

\* Beaufort Scale.

drilling barley. Mr. F. C. Cook noted a great mustering of Rooks, Jackdaws, and Starlings near Lowestoft (Zool. p. 331); he also remarked that a flock of Starlings was coasting north, and that Rooks were flying at sea.

BAROMETER, WIND AND WEATHER ON MARCH 10TH.



WIND.—Direction is shown by arrows flying with the wind.

WEATHER.—○ Clear sky. (u) Overcast. ● Rain.

11th.—West, 2, at Yarmouth. *Great Migration of Starlings.*—At Great Yarmouth, which lies some six miles north of Lowestoft, no movement developed until the 11th, when an extraordinary flight of Starlings was seen as early as 6.45 a.m. in the morning. "It extended," writes Mr. William Hardy, of Gorleston, "for perhaps one and a half miles in length, and was of sufficient breadth to cause approximate darkness, very similar to that experienced here on Tuesday afternoon during a snowstorm."



Some allusion has already been made by Mr. Arthur Patterson (Zool. p. 380) to this horde of birds, which, when first seen, were, I believe, less than half a mile from the sea, and travelling in a westerly direction against a gentle wind (registered as W., force 2). On the same day big flocks of Starlings were also seen by Mr. J. Vincent at Horsey, twelve miles north of Gorleston, coming in from the sea, and likewise going west against the wind. This westerly direction is almost as perplexing as their great numbers, for that is a direction hardly to be expected of them in the month of March. My theory would be that this was owing to the wind, for it is to be continually remarked on the rounded coast of Norfolk that birds are very fond of flying against a rather gentle wind, and particularly is this so in the vicinity of the sea, an opposing wind force 2-4 appearing to suit them very well.\*

16th.—Rooks and Grey Crows flying south-south-east at Northrepps, in the direction of Breydon, where Mr. A. Patterson has remarked that towards the end of March the latter often collect.

19th.—A Wheatear seen at Yarmouth by Mr. F. Chasen, probably brought from the south by yesterday's gale (S., 6). Another was said to have been seen as early as February 21st (B. Dye). Whether migrants generally were early I did not hear. Snipe were drumming on March 22nd; Pied Wagtails building on the 23rd; two Willow-Warblers at Brunstead on the 27th (M. C. Bird); and a Swallow at Santon Downham on the 29th (W. Clarke); but the Wryneck was not heard until April 3rd.

22nd.—The first birds'-nesting memorandum in my journal (with the exception of a Hedge-Sparrow's nest in an old kettle on the 13th) refers to some very early Moorhens,† which were already quite a week old on March 22nd. At least fifty per cent. of the Moorhens which are hatched probably do not survive a fortnight.

24th.—Weather very fine; Pipistrelle and Brimstone butterfly on the wing. Male Rhea booming loudly in its enclosure. To-day is the anniversary of the terrible gale which blew

\* In 'Studies on Bird Migration,' by W. E. Clarke, will be found a valuable chapter on the migrations of the Starling (vol. i., chap. xv.).

down about two million trees in 1895 (see 'Zoologist,' xx. p. 172).

25th.—A Waxwing † near Trowse Church. Marsh-Tits and Long-tailed Tits are now in evidence, apparently hunting for nesting-sites. I have found the nest of the former in a hole in an oak as much as fourteen feet from the ground, but that is unusual; on the other hand, a Rat's hole is sometimes chosen, from which a violent hissing proceeds if the Tit is disturbed when incubating.

#### APRIL.

7th.—*Spoonbills on Breydon Broad.* Allusion has already been made to the protection which our ill-supported Society\* still continues to afford to Spoonbills, a protection of which this year twelve availed themselves. The first one to be viewed on the mud-flats was rather early, appearing on April 7th, but Dr. Long tells me they come to Holland much earlier than this. In all probability its presence was due to a strong west wind (W., force 5) which had been blowing on the previous evening. It was evidently contented with the society of Gulls and their muddy surroundings, and it remained in the creeks, except for short absences when they were covered up and it could not feed, until the 14th. After an interval of six weeks, another turned up on June 2nd (W., 2), and this was joined by three more on the 3rd (N., 2), all in fine plumage, exhibiting white "copped crowns," as Sir Thomas Browne would have said, in allusion to their pendent plumes. They were tame enough to feed within fifty yards of the Watcher's houseboat, and I regretted an engagement prevented my going over to see them. All four took their departure on the 7th (W., 2), but on the 18th (S., 1) three of them came back again. Mr. Patterson, who had an opportunity of watching, thinks they were feeding on Sand Shrimps and Ditch Prawns, which is very probable, as Sheppard and Whitear remark that one killed on Breydon was full of the shells of Shrimps, and another which I had several years ago (October, 1871) had also good-sized Shrimps in its stomach. Mr. Jary does not say how long these three stayed, but on July 4th another was seen, which he considered to be a young one, and if

\* Breydon Wild Birds' Protection Society, Hon. Sec., H. P. Frederick, Esq., Great Yarmouth.

so, a bird of the year. On the 31st there were again three (W., 1), which may have been the trio first seen on June 2nd. On August 2nd two Spoonbills were remarked flying out to sea by Mr. F. Chasen, perhaps on their way to Naardermeer, as the following day none were visible on Breydon Broad. However, one came back on the 4th (W., 2), after which the Watcher, who has supplied nearly all the above memoranda, saw no more. Breydon is the only one of the Norfolk Broads which Spoonbills visit, none of the others being tidal, that would afford the food suitable to it. Now and then, however, one is seen on Hickling Broad, probably in search of Sticklebacks (see 'Zoologist,' 1866, p. 348).

11th.—Two Gadwall and twenty Tufted Ducks on Foulmere, and about fifty Tufted Ducks on Langmere, and one Shelduck (W. G. Clarke). These meres lie near Thetford.

21st.—A Woodcock seen on its nest at Hockering by Mr. B. B. Riviere. About this date Mrs. Smith, of Ellingham, assures me she distinctly saw a Snipe pick up one of her brood and fly with it some way, holding it apparently between her legs and her breast (see 'Field,' August 15th). The Snipe made three attempts to pick it up before rising in the air and successfully flying off with it. A similar concern in the case of the Woodcock for the safety of its offspring was reported at Hempstead some years ago. A Woodcock remained at Cranmer until June, but no nest was found (Sir T. D. Pigott).

22nd.—Mr. Riviere reports a Bewick's Swan which had been on Hickling Broad with a slight injury from shot since the 9th. I learn from Mr. Vincent that it took long flights, and did not leave until May 2nd. It was bullied, he says, by a male Mute Swan, which drove it into the reeds and tried to kill it. At no time did it voluntarily associate with the tame Swans which are kept on that water.

#### MAY.

1st.—Three Cormorants on Wroxham Broad (Springfield), perhaps the same which were on Breydon on April 28th, or these latter may have been the birds which Mr. Cook observed at Lowestoft ('Zoologist,' p. 332), for the Cormorant is not very abundant with us.

11th.—No more nests of the Common Sandpiper have been

found, but a pair, evidently mated and on their way to breed, were picked up dead in a street in Sheringham, having, as was supposed, struck an overhead wire in the night (H. M. Upcher). The male was distinctly spotted on the flanks, which in the female were quite clear.

12th.—Five Knots in red plumage on Breydon muds (B. Dye).

14th.—At the present time there are two Long-tailed Tits' nests † in gorse bushes, both very conspicuous, and that is often the case with nests of this early species, which are built before the leaves have come out. Another nest was in a cherry plum, another in a privet bush, and another was in a wild honeysuckle; on previous occasions nests at Keswick have been built in yews, juniper, whitethorns, thuja, jasmine, and box. Long-tailed Tits are paired by Valentine's Day if the weather is at all favourable, and completed nests\* are to be found in March, yet at the same time old birds are still to be seen in flocks.

15th.—An unusual sight was witnessed in the village of Castleacre—a Heron flying along the principal street carrying a large Eel in its beak. The bird was flapping awkwardly within a few feet of the ground, borne down by the struggles of its prey, perhaps impaled upon one of the mandibles, which would quite account for its not getting rid of it. Eventually the bird rose to a greater altitude and made off. (Correspondent of the 'E. D. Press.')

18th.—In a "Nature Study" now on exhibition at the Castle Museum, arranged by Mr. F. Leney, the results of planting the contents of a Partridge's crop are shown. Nothing has come up except harmful weeds, including bindweed (*Convolvulus*), *Persicaria*, white goosefoot, and annual *Poa*. The bird was sent up by Mr. Colman, and had been killed near Norwich. A Partridge dissected in Scotland, also in May, by Miss L. Florence, contained

\* These marvellous structures attracted the attention of naturalists as long ago as the sixteenth century, the first to describe one having been the illustrious Swiss physician Gesner (1555), who was followed, and at greater length, by Aldrovandus (1599-1603), who had discovered a nest with nine young ones. Salerne, however, perhaps taking his information from Ray, thought they laid twenty eggs. Instances of three or four birds in attendance upon one nest have been recorded ('British Birds,' iv. pp. 79, 209), which would account for such a large number as twenty.



many seeds of the sorrel, sheep's sorrel, and spurrey (*Spergula*). These facts are commended to the attention of farmers.

19th.—The following plants have lately been identified by the School of Agriculture at Cambridge from the crops of Norfolk-killed Pheasants:—*Ranunculus ficaria*, *R. acris*, *Taraxacum officinale*, *Plantago lanceolata*, *Galium aparine*, *Galeopsis*, *Chenopodium album*, *Brachypodium*, *Silene*, and *Polygonum*. That both Partridges and wild Pheasants do more good than harm can hardly be questioned, but when great quantities of tame Pheasants are reared, nature is altered and they become destructive.

23rd.—Montagu's Harrier at Lessingham (Bird).

24th.—Mr. C. B. Ticehurst inspected a nest of the Lesser Spotted Woodpecker at Ellingham. The diameter of the hole,† which was in a nearly dead elm-tree, about seventeen feet from the ground, was 1·3 in. The young flew on June 9th, having been very noisy for some days previously. This Woodpecker appears to be much less common in Norfolk than in some of the Midlands. In East Norfolk it is decidedly rarer than the Greater Spotted Woodpecker, yet in Suffolk the Rev. J. Tuck considers them equally distributed. May I ask if any of your readers have noticed the curious scratches made by Woodpeckers on the trunks of trees, especially the lower portion of oak trees? These indentations are often two or three inches long, and must be caused by the Woodpecker's claws; in most cases they are no doubt attributable to the Green Woodpecker.

27th.—A Guillemot in summer plumage picked up on the beach (B. Dye).

#### JUNE.

1st.—The colony of Black-headed Gulls on the salt-marshes at Wells has so prospered since their return to "Mow Creek" in 1906 (see 'Norwich Nat. Trans.,' viii. p. 494), that there are stated to be this year two hundred nests. On the other hand, the Hoveton Gullery is short of its usual complement, the number breeding there being very small, which the owner attributes not so much to the dry weather as to molestation by Otters, which are accused of killing some of the old Gulls on their nests. At Scoulton their numbers were maintained; this and the Staffordshire settlement visited by Ray in 1662 are the oldest gulleries of which we have any record. My first visit to the

celebrated gullery at Scoulton was with my father as long ago as 1860, and I remember we picked up a dead Gull which had eaten two small birds, apparently a Titlark and a Willow-Warbler. I have never met with an instance of their preying on birds since, but when I had to farm unlet land in the vicinity of Scoulton, the bailiff assured me that, if he was threshing corn, the Gulls would sometimes fly round the stack and catch the Mice as they ran out.

5th.—Sir T. D. Pigott, Mr. H. Upcher, and Mr. Marlborough Pryor found any number of Common Terns' eggs at Blakeney, and a fair lot of Lesser Terns. At Wolferton Mr. Cresswell reports two hundred and eight Common Terns' nests, and one hundred and five Lesser Terns' nests; and at Wells, where they are protected by the Earl of Leicester, I believe they also did well.

6th.—Lord Leicester's watcher at the Wells "Ternery" pointed out a Roseate Tern to Mr. C. Gurney, and later in the month the same or another was identified at Blakeney Point, where there were also some Sandwich Terns (R. Pinchen).

9th.—*The Great Crested Grebe*. Quite a number of Great Crested Grebes on Hoveton Broad, every bend had its tenants and two young ones, for, in spite of laying four or five eggs, the number seldom exceeds two, and if it were not for their mother's backs being a place of safety, the hungry Pike would not allow even that small quantity to escape. Altogether, I think, Mr. Barclay and I must have seen thirty-five, which shows what protection has done for this species, which Richard Lubbock, writing in 1845, thought was in danger of becoming extinct in Norfolk. Mr. Aplin thinks that it is the early or late growth of the rushes (*Scirpus lacustris*) which determines the date of this bird's breeding ('Zoologist,' p. 235). Undoubtedly they like a sufficiency of cover, but I do not remember to have found eggs earlier than May; yet April nests are to be met with. The Grebe does not use all the nests it makes. When a nest is used its interior—at least, on our Broads—is composed of fibrous portions of the "Gladden" (*Scirpus*), which flake off easily, leaving a brown substance like cocoa-nut fibre. Here let me correct a mistake in the Norfolk "Report" for 1906, where, by a slip, the date of some Grebes' eggs on the point of hatching

was entered as April 22nd instead of May 22nd, the latter being quite a normal date.

10th.—*Cormorants nesting in Norfolk.* About this date I received information that a pair of Cormorants—perhaps the same which had been seen on Wroxham Broad—had taken up their quarters on Lord Hastings' lake at Melton, which is nine



CORMORANTS IN NORFOLK, 1914.

miles from the sea. After little more than a week's residence, they were discovered to have taken possession of a deserted Heron's nest situated on a large alder tree on an island in the lake. To this nest,† which was quite forty feet from the ground, they at once began making additions, and by the second week in June it was evident to those on the spot that they had eggs. At the close of the month four young Cormorants were hatched, and, by order of Lord Hastings, strictly protected. A tent was erected near the lake for Miss E. L. Turner, by whom they were several times visited and photographed, and an admirable study of their habits from her pen was afterwards contributed to 'Country Life' (September 19th, 1914) and 'British Birds' (viii.

p. 130). Among other things, Miss Turner observed that these young Cormorants, when little more than a fortnight old, had the same habit as young Gannets of extending and flapping their wings. This is supposed to be done to relax the ligaments and strengthen the pectoral muscles before the final day of departure comes. On August 4th Lord Hastings wrote that the young Cormorants were on the wing, but I was unable to go and see them again. Soon after this some stranger Cormorants from the sea paid them a visit, and on August 20th, to Miss Turner's great surprise, there were no less than ten on the lake. As Miss Turner had to leave, the exact date on which the young took their final departure was not noted, but they all got away safely.

12th.—A Barn-Owl's nest † in a hollow elm at Ellingham contained, in addition to the usual Mice-pellets, the skin of a Mole and a freshly-killed Frog. An instance of their feeding upon Frogs is given in 'British Birds' (vol. v. p. 113), but it must be very uncommon. Neither Altum nor Fernard Lataste include the Frog in their lists. For a Tawny Owl to offer its young a Toad ('Zoologist,' 1913, p. 231) is still more remarkable, for the Toad is a most unpalatable creature. On this occasion, besides the young Barn-Owls, both the old ones were present in the elm-tree, which again is not customary when the young have attained a large size.

13th.—A Bluethroat (the only one this year) was caught alive at Yarmouth yesterday, having entangled itself in a net placed over fruit bushes (B. Dye); this is the first occurrence in June.

14th.—Sixteen Canada Geese in single file flew over Mr. Chasen at Yarmouth, probably the same flock which again passed Yarmouth on the 17th (B. Dye).

17th.—Three Crossbills seen at Northrepps by Mr. Burdett, and in the afternoon another flock of four. On the 19th he again saw four; on the 24th, two; and on the 29th, twelve. A few also turned up in July, but none after the 29th.

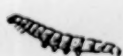
#### JULY.

1st.—This was the hottest day of the year, the thermometer standing at 87·3. Among other events attributable to this state of things was the successful hatching out of eight Rhea's eggs.



But oppressive as it was at Norwich, the temperature must have been very different in Yorkshire, for there was a hailstorm there of such dimensions that the hailstones were compared to large pieces of ice, and several hundred Gulls were killed or maimed ('Field,' July 11th). Norfolk birds were not much affected, except that scores of Herons (old ones and young ones) were endeavouring to find fish on Breydon Salt-water Broad (Jary), which was no doubt owing to the heat having dried up the marsh ditches.

4th.—Mr. Bird reports Sparrows taking oats and some wheat, too, on dry headlands, but partly making up for it by



*Plutella maculipennis*, C. (natural size).

devouring the larvæ of the Diamond-back Moth (*Plutella maculipennis*). This is the month in which they attack our peas and beans, to which may be added barley; even the young are sometimes fed on the soft milky grains. The Framingham Sparrow and Rats'-tail Club, which includes eleven parishes, paid premiums on 6300 Sparrows and 6834 nestlings and eggs, but the efforts of the local clubs do not seem to make much difference. The Raveningham Club paid £17 15s. 7d. on 10,387 Sparrows' heads and eggs.

6th.—Swifts already beginning to migrate.

7th.—*The Depredations of Starlings.* July is the month in which the fruit-eating birds take a heavy toll of our orchards and gardens, to the disgust of the indignant gardener. Those who have standard cherry trees of large size are subject to the daily depredations of Starlings, which laugh at a bell tied up in the tree, and are so bold that they can hardly be kept off by guns or boys. Flocks of them come to the feast, and may be seen audaciously carrying off the full-sized, but hardly yet ripe, whitehearts in their beaks, besides which the ground under the trees is strewn with fruit which these wasteful birds drop when only partly eaten. A paddock near my orchard is full of scattered cherry-stones, all of which is their work; ninety-two dropped stones were counted in the space of fifteen yards, and

practically no cherries, except a few which were not ripe, could be saved for the table, the trees being too large to net. In addition to Starlings, Blackbirds and Jays, the young of which are now as big as their parents, and if possible more greedy, help in the despoiling of the crop, also a few Thrushes; but these latter are not such fruit-eaters as the Blackbirds, and should not be destroyed. Norfolk farmers have long had a grudge against the Starling for grubbing up the autumn-sown wheat, which it begins to do as soon as the blade is two inches high, sometimes for the sake of the germinating grain, sometimes for the wireworm or other grub to be found at its roots; but in either case the young corn shrivels and turns yellow. Their diggings are from three to twelve inches long, or even to twenty-four, and are always where the drills run. Besides these iniquities, Starlings also take a great deal of hard corn which is put down for tame Pheasants, both at the coops and afterwards. At the same time we must not paint the Starling blacker than he really is, for he eats insects, as numerous dissections have proved. The researches of Mr. J. Hammond, Mr. W. E. Collinge, Mr. R. Newstead, Mr. J. E. Kelso, and Miss L. Florence have established beyond question that insects may be considered as the Starling's staple food for more than half the year.\*

8th.—A Hooded Crow was seen yesterday near Yarmouth by Mr. Chasen. The breeding of this species in Norfolk, although often suspected, cannot be said to have been proved up to the present.

12th.—Three young Tawny Owls observed by the gardener near an "Owl-tub" at Northrepps, doubtless a family party. I believe there have always been one pair in this wood, except when the vindictiveness of game-preserving, or an accident—such as getting down a chimney—has spoilt it. Wherever they are they soon make their presence known; noticeable also is the constancy with which they cling to a suitable locality. In May Mr. C. B. Ticehurst saw a party of six young Tawny Owls at Ellingham, very unusual if they all belonged to one brood. I have

\* In Australia, especially in South Australia and Victoria, where the Starling was introduced, it is now looked upon with great disfavour (see 'Nature Notes,' May, 1905, and 'The Field,' October 1st, 1910), although doubtless it eats insects there also.

never seen a nest with more than four. I omitted to state last year that from a Tawny Owl, shot near Norwich, Mr. Roberts took four large beetles,† identified by Mr. H. Thouless as *Geotrupes spiniger* and *G. stercorarius*.

13th.—During July Mr. T. E. Gunn pointed out a Barn-Owl † heavily spotted on the flanks, belly and lower chest, which had been sent in from North Walsham, remarking that in a long experience he had invariably found that the spotted ones were females. I have heard this before, and am surprised not to see it alluded to in any of our standard works as a sexual distinction.

23rd.—Mr. W. Rowan, who has just returned from a stay at Blakeney Point, writes:—"Hardly a day went by without seeing or hearing some Sandwich Terns, but I could not find a nest. The Common Terns are exceptionally strong this year, and I think seven hundred pairs is a safe estimate, for we measured close on six hundred clutches of eggs, and left many untouched."

#### AUGUST.

1st.—A young Great Crested Grebe which was accidentally killed in August was dissected by Mr. F. Chasen and found to contain nearly three hundred Grebes' feathers, presumably provided by its parents (at all events in part), as well as several wing-cases of a small Water-Beetle. No satisfactory explanation of these feathers in Grebes has ever been offered, but they must be intended to facilitate digestion and act as a pad against fish-bones, for they can possess no nutriment in themselves. It may be noticed that the feathers drop off a Grebe's body on a very slight touch, so as to be obtainable without the slightest pain when required by the bird.

15th.—Common Sandpiper † at Keswick. Young Flycatchers and flocks of young Starlings about. Young wild Ducks strong on the wing.

17th.—A Spoonbill on Kelling beach (H. Pashley).

20th.—Very early in the morning—about 3 a.m.—eight Green Sandpipers (too many to be one family) were seen by Miss Turner from her observation tent to alight on the edge of the lake at Melton Constable, where they at once began a morning toilet of bathing and preening.

## SEPTEMBER.

2nd.—Four Land-Rails were seen by Mr. P. C. Bird to cross the road at Beeston, and on the 18th one † was shot at Keswick, where it is now a rarity. The only other note made in September—usually a prolific month—was the shooting of a Shoveller † on the 23rd at Hempstead, and, later, that an unusual number of that species came to Hoveton.

## OCTOBER.

1st.—W., 2. A Little Bustard shot at Barton Bendish (Sir Digby Pigott) is the earliest in point of date yet recorded for Norfolk. Its usual month for visiting us is December.

2nd.—N.W., 2. Thousands of Starlings passing in from the coast at Brunstead (M. C. Bird) may have been a portion of the "incredible numbers" which are said to have flown over Huntingdon at this time ('Field,' October 31st); 1914 may almost be called the Starling year for the eastern side of England, and one wonders where they all go to.

3rd.—*A Flight of Gulls.* On October 3rd there was a fresh wind (force 4) from the north-west, in which quarter it had been with some variations for several days. Continuous flocks of Gulls † (principally Herring-Gulls, Great Black-backs, and Lesser Black-backs) were passing Sheringham during the afternoon, all, as usual, going against the wind, and following the line of the coast westwards, and no doubt they were passing Cromer at the same time, where their direction would have been N.N.W. Regularly as October comes in is this phenomenon to be seen on the rounded coast of North Norfolk, and especially at Cromer. Flocks of the species named, with a few Black-headed and Common Gulls (but no Kittiwakes)—averaging fifteen or twenty in a party—slowly wend their way, all in the same direction, hugging the coast and invariably flying more or less against the wind. Sometimes this goes on so long that one wonders where all the Gulls can possibly come from. I imagine they eventually return far out to sea, or at any rate out of sight of land when the opportunity offers of doing so with a wind to their liking. The direction of their flight would then be less often towards Norfolk than towards the shores of Belgium, from whence they could again work their way against the wind to England. How



far this theory fits may be better judged from an article in 'The Ornithologist,' edited by H. K. Swann (vol. i. p. 21).

5th.—Pochard† at Hempstead. Among nine Teal† shot to-day there was a remarkable difference in size.

6th.—N., 4, at 8 a.m.; N.N.E., 3, at 1 p.m. Large flocks of Starlings going north at Beeston Regis (Reynolds).

7th.—N., 1, at Cromer. A great northward coastal migration, Lapwings, Starlings, and Gulls being in great strength, but of this an account has been sent in (T. C. p. 449). Mr. B. B. Riviere is of opinion that the migrants, following the coast-line, turned south at Hunstanton, as observed by him on other occasions (see 'Zoologist,' 1913, p. 177, and 1914, p. 179).

12th.—The remains of a full-grown Water-Rat which a Heron had disgorged lying by one of the ponds. A Heron dissected this month by Mr. Chasen contained the remnants of Mussel-shells, an Eel, a Roach, and two species of Water-Boatmen.\*

14th.—Several Gannets going east (R. Pinchin). No wind.

16th.—An immature Gannet found alive on Holme beach (H. le Strange), also a Short-eared Owl, a Rook, a Woodcock, and a Pheasant, or at least their remains on the shore at Caister (F. Chasen), as well as six Razorbills and three Guillemots, which had come in contact with some tarry or oily substance, emanating it is supposed from exploded mines.

21st.—Mr. N. Tracey saw about fifteen Crossbills at Middleton feeding on a larch, the cones of which kept dropping; others were on a spruce fir, sufficiently tame to be photographed.

26th.—A Red-throated Diver,† still retaining its red neck, forwarded from Gorleston by Mr. Patterson. Another† which I found dead on the shore on December 15th also held one or two of the red gular feathers.

27th.—Not a single Common Buzzard or Honey-Buzzard has been announced, but a Rough-legged Buzzard was killed at Somerton (E. C. Saunders); and Mr. Roberts had two more†

\* It would appear from dissections that in Scotland Herons eat a good many insects. One shot in Aberdeenshire in June, 1911, contained seventy-one pupæ of Gnats, eleven Caddis-flies, four Water-Beetles, three eggs of a Leech, the hair of a small mammal, one seed of *Potamogeton*, and some grass. Four others also contained similar substances, with the addition of Diptera and Weevils ('Trans. Highl. and Agric. Soc. of Scotland,' 1911-12).

(October 27th and November 7th), both of which had found a dead or wounded Pheasant, on which their last meal had been made. We have had very few Rough-legged Buzzards in Norfolk since October, 1910, and the last visitation was in 1880. When skinning Rough-legged Buzzards, I have observed that the skin of the tarsus will easily peel back to the foot.

#### NOVEMBER.

3rd.—German fleet bombarded Yarmouth, or rather its roadstead. Several Redpolls on alder trees. Four fresh Sky-Larks under the telegraph-wires (Chasen), and a Nightjar,† probably disabled by the same agency, picked up alive at Northrepps (Barclay).

4th.—Thick fog last night; an adult Gannet dead on the shore (Chasen).

6th.—Short-eared Owl † at Keswick.

14th.—W.N.W., 2, at Yarmouth. About eighty Wild Geese, in two flocks, going N.N.W., noisy and flying low, were seen at Smallburgh by Mr. Bird, species not identified. None were detected on Hickling Broad, but no less than six flocks of Wild Swans—believed from their size by Mr. James Vincent to be Bewick's Swans—comprising ten, four, thirty-two, fifty-two, seven, and twenty-eight individuals, as well as four Whooper Swans (one hundred and thirty-seven birds altogether), were seen by him passing over Hickling Broad. All these Swans, like the Geese, were flying west, that is, going against the wind, which was north-west and moderate. But the day before, when they probably started on their journey, it had been very high, not only in England but on the Continent. At Norwich it was W., force 5; on the 13th at Nairn, in Scotland, W., force 7; at the Helder, on the coast of Holland, S.W., force 6; and in the southern Baltic, W.N.W., force 6 (see map). At Breydon flocks of Wild Swans were also seen coming in from the sea, and then passing west or south-west over the Broad (Jary). At Blakeney I heard from Mr. Pinchin of a flock of about fifty and another of seven, and these also were going west, but further than that the movement was not traced, so it was probably of no very great extent.

15th.—The next day Mr. Vincent saw two more flocks of

Swans, the tail of the squadron, numbering about sixteen and nine respectively, which he believed were also Bewick's Swans, passing over the Broad.

17th.—A Little Auk picked up at Salle; this and one found on the beach at Gorleston on December 12th (Dye) are the only ones reported. The latter date coincides with their appearance in the east of Scotland.



DIRECTION AND FORCE OF THE WIND ON NOVEMBER 13TH.

#### DECEMBER.

4th.—*Arrival of Wood-Pigeons.* Sir Digby Pigott is informed that at about half-past three this afternoon a gentleman who resides at Weybourne was called out by his servant to look at a little covert behind the house, which is situated only half a mile from the shore. The covert, to quote his expression, was "blue all over with Wood-Pigeons," which must have just rushed in *en masse* from the sea. The wind the previous evening had been high (S.W., 5), and was still blowing pretty hard from that

quarter. The movement, although it does not seem to have been general, was also notified at other places on the coast, viz. at Stiffkey, Cley, Northrepps, and Overstrand; at the last-named some Pigeons being seen while they were flying over the sea.\*

5th.—*The Food of Rooks and Wood-Pigeons.* My bailiff has again dressed his wheat with "corvusine" (see "Report," 1911), and I hope it has protected it from Wood-Pigeons and Rooks, for wheat at thirty shillings a comb is worth taking care of. Steeping the grain in brine is held of no use, and some farmers still have an objection to "corvusine," which in any case is not often employed for barley or oats. The Rook is in little better favour than the Wood-Pigeon. Mr. B. B. Sapwell, who generally speaks on behalf of the farmers, writes:—"Rooks do much harm to swedes during the winter; they search the rings for any partially exposed roots, and with their powerful beaks peck great holes in them; rain water settles in these holes and rots the roots, and the frost gets hold of these exposed places." It has been truly said that the Rook does an immense amount of harm, but some amount of good, which must not be forgotten. Whatever redeeming qualities there may be in the Rook and the Starling, there are no two opinions as to the destructive character of the Wood-Pigeon. In January the Wood-Pigeon is generally content with acorns, but it is almost the only month in the year in which some crime cannot be laid to its charge. In February they pick out the heads of the red clover, which is coming for hay on the new leys, while in March their presence on the newly sown barley is much too frequent to be acceptable. They are not accused, however, of picking out the grain like Rooks, but are considered to content themselves, as a rule, with what the drill scatters upon the surface. In July they are very fond of oats, besides attacking the young swede crop, which is soon ruined, while in September ripe elderberries are to their taste, and, later, beech-nuts become the favourite food. Of acorns I have often found so many and of such a size as to be

\* It may have reached greater proportions in Yorkshire, where I learn from Mr. W. H. St. Quintin, a hundred and thirty-seven were secured by two guns on December 26th. No such bag as that was made in East Norfolk.



astonished that their crops did not burst with them. The rapidity with which they can digest such hard food is equally incredible, and it is a saying that a Wood-Pigeon will eat its own weight in a day! As far as the eastern counties are concerned, any increase in this species is not so much due to the killing down of birds of prey, as to the great amount of land which is planted with green crops, which are greatly to their liking.

19th.—A Stone-Curlew hanging in a Norwich game-shop (Chasen), probably killed at no great distance.

26th.—A Bittern † on Hempstead Mill-pond, where, of course, it was not molested. The miller, who had not heard one before, mistook its booming for a horse in distress. At another place, not many miles away, one was mistaken for a cow! The Bittern's sleepy nature has often been commented upon, and it was not until after a great deal of noise had been made that it rose from among the reeds. Turner calls it "*pigerrima et stolidissima*" (very sluggish and stupid), but it must be remembered that its habits are nocturnal.

#### VARIETIES.

There are no varieties of plumage of great moment which call for a record. In January, Mr. E. T. Roberts had a pied Lapwing, † and a buff Redwing, similar to one received six weeks before. He also had a white Robin † from Felbrigge in May, and a pale brown Bullfinch † from Witton in December. In February I saw a white Blackbird † in Mr. Riviere's garden in the middle of Norwich, and was informed that it had been there two years. In July I more than once had a glimpse of a white Swallow † at Keswick, which was so conspicuous among its brethren as to be easily picked out at a distance. On August 23rd the same or another was seen at Felmingham (G. Plumbly). A white Snipe † which frequented some meadows at Framingham in October, and which was said to look more conspicuous on the ground than when flying (J. A. Christie), escaped the fowlers until December. Part of its plumage proved to be ash-colour, through which the normal markings could be seen.

*Swan × Goose Hybrid*.—This singular hybrid, produced by a male Mute Swan and a Domestic Goose, which was described

and figured in the 'Zoologist' for 1911 (p. 174, plate iii.), is still flourishing, but its plumage is getting whiter as it gets older. It has now a companion hybrid,† which was bred on the same pond and from the same father, by Mrs. Reynolds, who is very proud of her unique pair of birds.

#### MARKED GULLS.

On January 14th a Black-headed Gull ringed in Schleswig-Holstein was recovered at Woodton, and on February 14th another, ringed at Rossitten, on the Baltic, at Breydon ('British Birds,' p. 340). A third, also ringed at Rossitten, was recovered at Stow Bardolph on December 5th (R. S. Smith). From Rossitten to Norfolk is nearly eight hundred miles, but a Gull does not think much of that, I imagine.

## NOTES ON THE WAY IN WHICH A STARFISH EATS A PIPE-FISH.

By H. N. MILLIGAN, F.Z.S.

It is well known that the Common Starfish (*Asterias rubens*) will devour almost any animal which it can manage to catch and overcome, but, so far as I know, no precise account has been given of the way in which this animal can make a meal of a large Pipe-fish.

For several months past I have had two medium-sized healthy individuals of this Starfish living in an aquarium. On March 3rd I obtained two specimens of the Deep-nosed Pipe-fish (*Siphonostoma typhle*), which were alive, and two specimens of the Equoreal Pipe-fish (*Nerophis æquoreus*), which were nearly dead, and at 3 p.m. I put all four of the Pipe-fishes into the aquarium which contained the Starfishes. It so happened that one of the Starfishes (which for convenience I will designate as A) was walking towards the spot on which one *Nerophis æquoreus* fell. When it arrived within about an inch and a half of the fish, the asteroid, which had not been fed that day, seemed to become aware of the fish, for it quickened its pace. It placed itself over the Pipe-fish, and at once humped up its disc on its five arms in the manner characteristic of a Starfish which is about to take food.

The way in which the Starfish dealt with such an awkwardly shaped piece of food as a Pipe-fish of about ten inches in length was exceedingly interesting. The asteroid had placed itself over the head of the fish, not, of course, designedly, but because that happened to be the part of the fish which it reached first. The Starfish now supported itself by three arms, *a*, *b*, *c*, on the ground, and one arm, *d*, fastened by its tube-feet to the glass front of the aquarium, in the posture shown in fig. 1, the stiff bent body of the fish resting on the ground at the point *f*. The Starfish laid the arm *e* parallel with the straight part of the

body of the Pipe-fish, the tube-feet encircling and holding the prey. Apparently the asteroid was unable to hold the fish firmly enough in this way, and some ten minutes after taking hold of the fish the asteroid removed the arm *d* from the glass and laid it parallel with the arm *c*, but on the opposite side of the body of the fish, and the tube-feet of the two arms encircled and firmly grasped the fish from both sides, in the way shown in

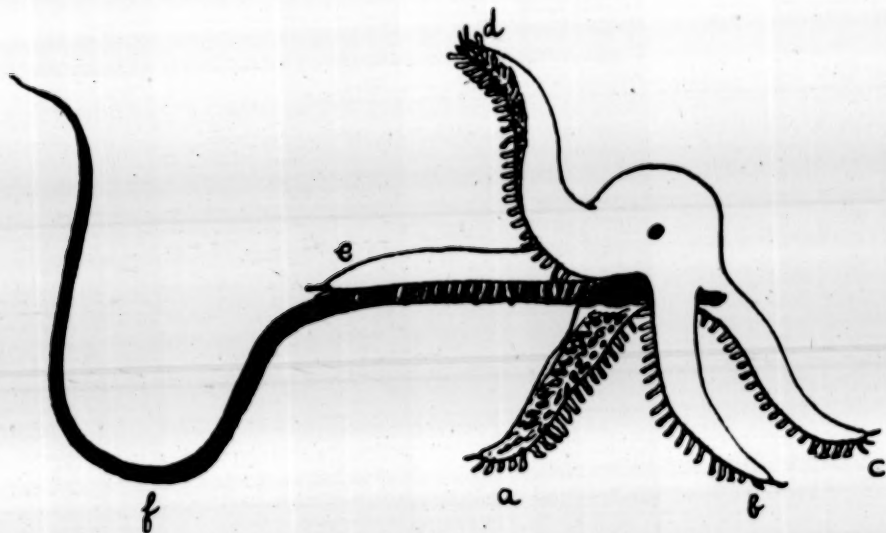


Fig. 1.

fig. 2, some of the tube-feet being attached by their disc-like ends to the body of the fish, while the others were merely laid around it. The Pipe-fish made no attempt to escape; indeed, by this time it appeared to be dead.

On the following morning I found that the Starfish was still sitting over the Pipe-fish. The partially everted stomach of the former could distinctly be seen wrapped round the body of the latter, in the same way that one would tightly wrap a cloth kettle-holder round the handle of a kettle. By this time, however, the asteroid had shifted further towards the tail of the fish, so that the head of the fish now projected far out to the right between arms *b* and *c*. The skin of the hinder part of the head and the eyes, that is the part of the fish which had been within the stomach of the Starfish, had completely disappeared, having apparently been digested.

Some time between 4 p.m. on March 3rd and 10 a.m. on the



4th the other Starfish, which I will call B, had found the second *Nerophis aquoreus*, from which it had digested part of the skin and the walls of the abdomen, the contents of the abdomen having disappeared so completely that the vertebral column and the large plates of the sides of the body were, though still in their natural positions, quite clean; in fact, for a distance of an inch and three-quarters the fish had been skeletonized.

At 10 a.m. Starfish B quitted its Pipe-fish, and moved towards the Pipe-fish which was being eaten by Starfish A. Starfish A had been distant only about three inches from B, and it is

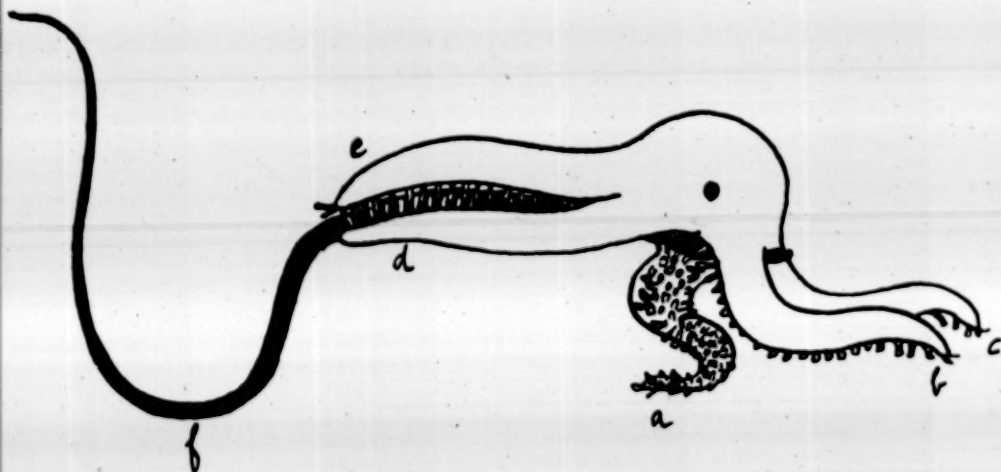


Fig. 2.

possible that the latter moved towards A's prey merely by accident, and not because it had discovered the presence of another Pipe-fish. Nevertheless, when it reached the tail end of A's Pipe-fish it immediately humped up its body in the usual way, and for an hour or so the two Starfishes divided the Pipe-fish between them, Starfish A holding the anterior portion, and B the hinder portion. Starfish B, however, quitted the Pipe-fish without, so far as I could see, having digested any part of it; at all events that part of the fish over which the Starfish had sat had its skin still unbroken. This may have been due to the fact that the hunger of Starfish B had already been almost satisfied, or, as seems more likely, that the constant movements made by Starfish A and communicated to the long body of the Pipe-fish annoyed or frightened away Starfish B.

A little later, though at what time I am not certain, Starfish A also quitted the Pipe-fish, which I removed from the water at about 11 a.m. The eyes had disappeared, together with the contents of the abdomen and the skin of that part of the body of the Pipe-fish which had been within the stomach of the Starfish.

Neither of the two living specimens of *Siphonostoma typhle* has been touched, nor have two of the Pipe-fishes of the species known as *Nerophis ophidion*, which have lived in the aquarium for several weeks, although these fishes lie for the most part quite still at the bottom of the tank, and make little or no endeavour to move away when the Starfishes walk over them. The latter, however, have killed and eaten, within a few months, about half a dozen healthy examples of the Common Brittlestar (*Ophiothrix fragilis*), white fragments of whose skeletons still lie strewn over the sand at the bottom of the aquarium.

## NOTES AND QUERIES.

## MAMMALIA.

**The Distribution of the Polecat (*Mustela putorius*) and Yellow-necked Mouse (*Mus flavicollis*) in Essex.**—Up to the first thirty years of the last century, that is, until about 1830, in many parts of Essex, especially those parts bordering on the marshes, the Polecat was fairly frequent—so much so that it was a common occurrence in a day's sport at ferreting Rabbits to see one or two examples bolted by the Ferrets, and there were very few farm labourers who were not familiar with their appearance and power of emitting a most fetid stench, especially when frightened or otherwise interfered with. For many years they have been rare, and it would be difficult now among the younger farm labourers to find one who knows anything of their habits or appearance. They still exist in Essex, although they are very rare, but no doubt Epping Forest will delay their extermination, if not prevent it entirely.

*Mus flavicollis*.—This, the next species Miss Pitt's enquiries refer to (*ante*, p. 113), is in a different condition, and instead of approaching extermination is more frequent apparently. It is only during the last few years that it has been so generally recognized. It is found in most parts of Essex. If a Long-tailed Field Mouse is caught in a storeroom in a house in this county it is generally of this species. It cannot be said the ordinary *sylvaticus* never enters houses, for it does so at times, but much more rarely than the Yellow-necked variety or species; this being the one usually found in the storeroom in the house, or in the gardener's seed-room.—HENRY LAVER (Colchester).

**Distribution of the Polecat** ('Zoologist,' p. 113).—*Bedfordshire*.—The numerous payments for these vermin that are given in the "Churchwardens' Accounts" of so many parishes show that the Polecat was only too common throughout the county up till at least early in the nineteenth century, when the majority of such payments for the destruction of vermin ceased. From such information as I have been able to gather from a past generation of gamekeepers, woodmen, and others, Polecats were still fairly plentiful in the county up to the middle of the past century. From then onwards, probably largely owing to the more extensive preservation of game, their numbers have rapidly decreased, and they became extinct before the close

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## NOTES AND QUERIES.

## MAMMALIA.

The Distribution of the Polecat (*Mustela putorius*) and Yellow-necked Mouse (*Mus flavicollis*) in Essex.—Up to the first thirty years of the last century, that is, until about 1830, in many parts of Essex, especially those parts bordering on the marshes, the Polecat was fairly frequent—so much so that it was a common occurrence in a day's sport at ferreting Rabbits to see one or two examples bolted by the Ferrets, and there were very few farm labourers who were not familiar with their appearance and power of emitting a most fetid stench, especially when frightened or otherwise interfered with. For many years they have been rare, and it would be difficult now among the younger farm labourers to find one who knows anything of their habits or appearance. They still exist in Essex, although they are very rare, but no doubt Epping Forest will delay their extermination, if not prevent it entirely.

*Mus flavicollis*.—This, the next species Miss Pitt's enquiries refer to (*ante*, p. 113), is in a different condition, and instead of approaching extermination is more frequent apparently. It is only during the last few years that it has been so generally recognized. It is found in most parts of Essex. If a Long-tailed Field Mouse is caught in a storeroom in a house in this county it is generally of this species. It cannot be said the ordinary *sylvaticus* never enters houses, for it does so at times, but much more rarely than the Yellow-necked variety or species; this being the one usually found in the storeroom in the house, or in the gardener's seed-room.—HENRY LAVER (Colchester).

Distribution of the Polecat ('Zoologist,' p. 113).—*Bedfordshire*.—The numerous payments for these vermin that are given in the "Churchwardens' Accounts" of so many parishes show that the Polecat was only too common throughout the county up till at least early in the nineteenth century, when the majority of such payments for the destruction of vermin ceased. From such information as I have been able to gather from a past generation of gamekeepers, woodmen, and others, Polecats were still fairly plentiful in the county up to the middle of the past century. From then onwards, probably largely owing to the more extensive preservation of game, their numbers have rapidly decreased, and they became extinct before the close

of that era. The last nine local records that have been recorded were between 1875-1898. Personally I have been able to examine but two of the latter specimens; there is always the doubt of a feral fitchet-coloured Ferret having been mistaken for this animal.—J. STEELE ELLIOTT (Dowles Manor, Shropshire).

#### AVES.

**Occurrences of Aquatic Warblers in the British Isles.**—In my paper on "Aquatic Warbler on Migration obtained on Tuskar Rock," published in the March issue of the 'Zoologist' (pp. 81 *et seq.*), I devoted a paragraph to "Previous Occurrences of the Aquatic Warbler in the British Isles," but omitted to mention a subsequent occurrence to that of my Tuskar bird, namely, that of one obtained at Fair Isle on October 23rd, 1914. The omission arose from the fact that when I sent my paper to press I had not received the January number of the 'Scottish Naturalist,' in which Mr. Eagle-Clarke recorded capture of the specimen (p. 5). Two points interested me very much in connection with what Mr. Clarke says about his specimen. One, that "in the dress of rich rufous buff heavily streaked with black on the upper surface, it is a very conspicuous bird." I quite agree. On the other hand, the Sedge-Warbler is not by any means conspicuous, and, as insisted on in my article, these two Warblers are quite distinguishable, *irrespective of the conspicuous medial buff head stripe of the Aquatic Warbler*. The other point of interest is that the Tuskar and Fair Isle birds have been detected in *consecutive seasons* at areas in the British Isles very remote from one another. This makes us all the more expectant that the distribution both in latitude and longitude of this species may be more extensive than we had thought it might have been. So far my prophecy that we may expect to find the Aquatic Warbler "turning up at light-stations *with increasing frequency*" has been strengthened by this record one year after the occurrence of my Tuskar bird. But we must await further evidence of the increasing frequency of the bird's appearance before we can prove my remarks to be, of a truth, prophetic.—C. J. PATTEN (University, Sheffield).

**Birds Travelling North in Autumn.**—In the 'Zoologist' for March (*ante*, p. 113) reference is made by my friend Mr. H. B. Booth to the fact that many of our migratory birds, prior to their departure in autumn, are to be found north of their breeding-haunts. I do not think that movement is confined altogether to the larger species, but I am disposed to think it extends to many of our passerine species.

Many of our migratory birds—and even most of what have hitherto been included as residents are, in fact, migratory—rear more than one brood in a season, and it is well known when the young can shift for themselves they are driven away from their homes by their parents before a second brood is reared; and under such circumstances the young may wander to a higher latitude, leading a more or less nomadic life until their food supply is affected by adverse weather conditions; thus there may be some ground for Mr. Booth's suggestion that this habit may account to some extent for the fact that almost every species that is extending its breeding range does so in a northerly direction. There may be instances where a species has extended its breeding range, the facts of which can scarcely be squared by the above theory, as instance the sudden irruption of the Hawfinch into Yorkshire in the seventies. The nesting habits of these were quite different from those which breed in the South of England, and seem to suggest an oversea immigration. It should also be stated that many young birds of the first brood migrate southward soon after they can shift for themselves. I think I have often seen this movement in August when the food supply has been fairly abundant. Verily, there is still in bird migration more than is dreamt of in our philosophy.—E. P. BUTTERFIELD (Wilsden).

**Symmetrically-marked Variety of the Redbreast; Individual Attachment in Redbreast.**—A day or two ago, crossing a field behind my house, I saw a bird with a red breast with much white in its tail fly into my neighbour's garden and settle in one of his fruit trees, which at first I really thought was a Red-breasted Flycatcher. I ran to fetch my field-glass, but discovered it to be a well-marked variety of the Redbreast. The tail-feathers, at least the outer ones, and the primaries were white; both sides of the bird being very evenly marked, unlike most varieties.

A neighbour called me the other day to look at a Redbreast which has come into her house all winter. She was making bread, and although she went about performing her household duties, it evinced no fear whatever, but hopped about, picking up such food as she kept throwing down from time to time. It resented the attentions of the husband, to the great amusement of the good wife of the house and chagrin of the former, who is a passionate lover of Nature, and would have liked to cultivate a closer acquaintance with the bird.—E. P. BUTTERFIELD (Wilsden).

**Fulmar Petrel on Inishtrahull Island, Co. Donegal.**—On Tuesday-noon, September 16th, 1913, a fisherman and native of Inishtra-

hull Island, Co. Donegal, captured a Fulmar Petrel as it rested on a rocky platform about forty feet above the sea-level. The bird, which was brought to me the same evening, was in no way injured, and was in good condition. On making as exhaustive enquiries as possible, I ascertained that this species had not been known to breed on Inishtrahull, being much better known as a *sea-bird on the wing*, often seen in the vicinity of the island. But being cognisant of the fact that the Fulmar Petrel recently had been found breeding in several localities on the Irish coast, I resolved to make a careful search myself for evidence of its having nested on Inishtrahull Island. To the best of my belief, however, I concluded that it had not heretofore done so. Until a few years ago this Petrel, as far as Ireland is concerned, was regarded as an oceanic bird, which seldom came closer than twenty \* miles or so to the Irish coast (Farran). Exceptionally, *i. e.* when storm-driven, it has been picked up on or near the shore. In this way specimens have been, from time to time, obtained, notably by Mr. Warren, on the coast of Co. Mayo. However, on July 10th, 1911, Ussher found it breeding on a cliff on the north coast of Mayo, and was the first ornithologist to publish the fact of the Fulmar breeding in Ireland ('Irish Naturalist,' August, 1911, p. 148). Subsequently he was informed that the bird had bred on the coast of Ulster this year; had appeared the previous year; and had remained during the breeding season. (For details, *vide* Ussher in 'Irish Naturalist,' September, 1911, pp. 149 *et seq.*; also Barrington in *ibid.*, June, 1914, pp. 134, 135.) In May, 1913, the Fulmar was found breeding on the Great Skelligs Rock, Co. Kerry, and the fact was recorded by Mr. Barrington ('British Birds,' July, 1913, p. 56). On July 1st, 1913, Ussher found Fulmars breeding on Tory Island ('Irish Naturalist,' August, 1913, p. 164). The Fulmar is a very abundant bird, and it is well known that it has been extending its range southward on the west side of Europe for many years. There is little doubt that several other localities on the Irish coast, if they are not so already, will be tenanted by this species for nesting purposes.—C. J. PATTEN (University, Sheffield).

**Rare Nesting-site for the Goldfinch.**—Referring to Mr. Stanley Lewis's remarks on the nesting of the Goldfinch, I may say that in my garden it has nested in the Lombardy poplar, sycamore, Scotch

\* On August 10th, 1906, I observed from the deck of a Transatlantic liner Fulmars about seven miles off the coast of Co. Antrim. I have recorded this observation in my 'Aquatic Birds of Great Britain and Ireland' published in 1906, p. 564.



pine, and arbutus. I once saw a Goldfinch's nest in an oak tree, but it was never completed.—ROBERT MORRIS (Uckfield, Sussex).

**Parental Instinct in Rooks.**—There was in Cambridge in the spring of 1912 an apparently flourishing rookery high up in an avenue of elms. Late one afternoon an unfortunate fledgling fell from the nest and landed with considerable force in the road. He was of a fair size, but his steel-blue skin was covered with feathers only on the wings and head. The loud cries of the young bird quickly brought both parents to the rescue. They walked round for a few minutes as though in consultation, and then each seized the youngster by the wing in their beaks, and attempted to regain the nest. With great difficulty they raised their burden about two feet, when it slipped and fell to the ground. They made a second attempt, which proved equally fruitless, and then finally abandoned the baby. The little creature may have been injured by the fall, for he died three days later, in spite of frequent feeding and the warmth of an incubator. This may have influenced the parents when they left their offspring to its fate.—(Miss) M. CALLARD (Dulwich).

**Hen-Harrier in Bedfordshire.**—An adult female Hen-Harrier (*Circus cyaneus*) which I examined whilst in the hands of the taxidermist was shot at Crow Hill, Bolnhurst, on December 29th, 1914. The Duchess of Bedford informs me a large Hawk was reported to her Grace, seen some weeks previously at Woburn, which was probably the same bird. This makes the fifth known record for that county in recent years, the majority of which I believe have been adult females. I have no record of any old blue male being obtained. Until the close of the eighteenth century there seems sufficient proof (if one may draw such conclusions from hearsay evidence alone) that the Hen-Harrier nested not uncommonly in at least several parishes of that county.—J. STEELE ELLIOTT (Dowles Manor, Shropshire).

**Black Redstart in Bedfordshire.**—From the continued occurrence of the Black Redstart (*Ruticilla titys*) in Bedfordshire, it is evident that it is a regular though rare winter migrant to that county. Whilst giving a recent observation of this species it may be of interest for comparison to include all the other local records known to the writer. In November, 1860, one was seen by Mr. A. Covington on the old hostelry 'George Inn' in Bedford. About 1865 Mr. T. Cane killed one at Luton and saw another some years afterwards and heard of a third being seen in that locality. December 29th, 1872, a second seen by Mr. A. Covington on St. Paul's Church, Bedford; one, probably the same bird, was killed in Bedford the

following day. March 22nd, 1877, Mr. F. J. Thynne saw an adult male for two consecutive days in Haines Park, and a female or immature male on March 27th, 1880, in the same locality. November 4th, 1890, one killed at Roxton, and another, about 1893, at Great Barford, both of which were perched on the hurdles forming sheep pens. February 17th, 1899, Mr. A. Covington observed a male flitting along a hedge on Clapham Hill. December 28th, 1901, an adult male killed from an apple tree at Kempston. March 3rd, 1902, Mr. A. Covington made his fourth local record, another adult male in Bedford Park, which he watched for some time amongst the trees and bushes there. A female was obtained at Biddenham in November, 1906. Early in November, 1908, one was killed in or near Bedford. Another shot along the highway near the Toll-house at Roxton in November, 1909. In the winter 1911-12 one was obtained near Bedford. The last and seventeenth record was a male seen by Major G. Haines on December 22nd, 1914, at Grounds Farm, Hockliffe, who refers to the weather being dull and frosty at the time. It will be noticed that the majority of records refer to adult males.—J. STEELE ELLIOTT (Dowles Manor, Shropshire).

**The Meaning of "Katones."**—I think "Patines" is quite possibly the explanation of "Katones," although it is not likely to have been in general use in Wales. Ray does not actually give "Patines" as one of the names of the Manx Shearwater in his 'Synopsis Avium.' But in the appendix to that work he describes a bird which he calls "*Hirundo marina major*. Patines de Oviedo, lib. 14, cap. 1. *The greater Sea-Swallow*," and it is to this that Pennant's reference relates. Ray's description of the bird leaves no doubt that it was a Shearwater, although it may not have been the Manx Shearwater. He speaks of it inhabiting the Atlantic, Madeira, and the Salvages, and approaching the Land's End.—O. V. APLIN (Bloxham).

**The Sense of Direction in Birds.**—Mr. Barrington's assumption that the young Polynesian Cuckoo, born of parents which have wintered on the Kermadoc Islands, necessarily proceeds in its first autumn to these islands may rightly be questioned (*ante*, p. 115). The Cuckoos bred in New Zealand probably irradiate into Polynesia, where the species has a very wide distribution in winter. The young European Cuckoo has never been shown to be "capable of following the old birds to their winter quarters in Africa," though, it is true, the birds of the year winter in Africa. These young Cuckoos are performing their first outward journey, not a return journey—an important distinction Mr. Barrington has evidently failed to realize.

As it is not possible yet to define the problem of the first outward movements, no solution of the problem can be given, and incidentally no answers to Mr. Barrington's questions, except in so far as the means of keeping a true course is concerned. This faculty, which appears to me to have a similar mechanism in both outward and return movements, I have discussed in my paper published in the February issue of this journal.—J. M. DEWAR (Lauriston Place, Edinburgh).

**Coots Infested with Vermin.**—In Kent it is a common expression, "As lousy as a Coot!" I recently saw four of these birds shot, and in every case vermin, in appearance like small lice, were found on the dead birds. Can you or your readers inform me whether it is the invariable rule for these birds to be verminous, or was this merely chance? It is well known that any bird under certain conditions will become verminous, but I thought that the expression and my experience might mean that all Coots were so.—HAROLD S. CARLTON (Forest Hill, S.E.).

**Willughby's Plate of the Gannet.**—The letter from Thomas Pennant to the Rev. Dr. Borlase, communicated by Mr. Aplin (Zool. p. 69), is most interesting, but one is inclined to think Pennant rather severe in his strictures on Willughby's picture of the Gannet, which really is pretty good. Most likely it was drawn from the example which Willughby records to have been picked up alive at Coleshill, in Warwickshire, and which very possibly was kept for a time, for the shortness of the abraded tail is indicative of a bird in confinement. Pennant's own illustration, as Mr. Aplin justly remarks, is also good, which might be expected seeing that it is the work of the clever draughtsman George Edwards. Edwards perhaps, for some reason, was not allowed to reproduce it in his quarto 'Gleanings of Natural History' (1743-64), as the Gannet finds no place there. The plate in 'The British Zoology,' which represents a Gannet in the act of plunging, was afterwards copied by Bonnaterre in the 'Tableau Encyclopédique Meth.' (1790). If intended for an adult bird, it is rather too dark, and the claws, on one of which in each foot the serrations are shown, are too long.—J. H. GURNEY (Keswick Hall, Norwich).

#### PISCES.

**Comber Wrass at Great Yarmouth.**—On April 1st a shrimper brought me two small fishes that had been captured in his net the day previously, off the town. He remarked that he had caught two exactly like them last year, "but had lost them somehow," so he

had made sure I should have the satisfaction of examining these. One of the fish was of a vivid mahogany hue approaching to rose red, and of a colour and shape well depicted in a figure given by Couch ('British Fishes,' vol. iii. plate cxxvi.) and described by him as the Comber Wrass, but with no specific cognomen: Day ('British Fishes,' vol. i. p. 253, plate lxxi.), however, refers to it as *Labrus maculatus* (variety *donovani*).

It is my experience, and the fact is pretty generally recognized, that the *Labridæ* are adorned with gorgeous tints, that intensify under sexual influences, particularly in May, and that the species are also subject to great individual variations in coloration, age and sex also differentiating; their brilliancy quickly declining, and hues actually altering after death. Under these circumstances, and a certain tendency to variation in figuration, the confusion that has existed among naturalists as to a certainty of identification may be excusable, but, nevertheless, leaves much to be regretted as well as desired; indeed, in most of their descriptions given of the *Labridæ* a very considerable space is devoted to argument and disputation as to the determination of species. Personally, I am inclined to give *L. donovani* (Cuv.) or *L. comber* (Ray) a definite place as a satisfactory species.

Mr. R. Q. Couch, son of the author of 'British Fishes,' describes this fish as "the most elegantly shaped of all the Wrasses inhabiting our seas. It is the most slender and most graceful. The head is smaller, the lips thinner, and the jaws more prolonged and pointed than any of the others. I have seen only a single specimen, caught off St. Michael's Mount, but I am informed by the fishermen that several are caught every summer" ('Zoologist'). These remarks well apply to my two examples.

Pennant refers to a Comber "received from Cornwall," and professes to give an illustration of it, which has evidently been copied by the engraver—although the position is reversed—in Yarrell's 'Fishes,' although what he (Yarrell) terms the Trimaculated Wrass (plate xlv. fig. 120, vol. 3, edition 1776) is drawn to the exact proportions of the fishes before me. My two examples measure respectively  $2\frac{3}{4}$  in. and  $2\frac{1}{2}$  in., and are immature: the larger was dullish brown, but after a short immersion in formalin became dull red; the other, a red specimen, coming out in the solution vividly red. When fresh the eyes were large and bright red; the body compressed but moderately deep, not so much so as in the Ballan Wrass (a species remarkably well portrayed by Couch). On the cheeks were three bean-shaped white spots, placed in such a position



as to suggest a broad arrow; spots of ivory-white were set in a ground-work of red under the lower jaw. There were no regular lines of white down the sides (as given by Couch), but white dots were sprinkled rather irregularly below the lateral line, mostly towards the tail. The tail showed three white spots at the base, with several more spots, making almost a white band across the centre of it, the fin-rays dividing them. Four bands of white, alternating with red ones, conspicuously marked the dorsal fin, and a horizontal white line divided the broader posterior portion of it. The duller fish also showed white bars on the dorsal fin. Several spots of dark brown were fairly regularly arranged at the base of the dorsal fin rays.

At the moment of writing, the formalin (mixed rather strong, in my hurry to catch a train) seems to be playing tricks with the colours, which are fading on the gill covers. These examples are less unwieldy and more symmetrical than the more Tench-like Ballan Wrass, a fair-sized specimen of which I examined on April 3rd, that had been taken off Cromer. If my fishes represent a true species, they form an interesting addition to my list of East Coast *Labrus*, viz. Ballan Wrass, Cuckoo Wrass, Jago's Goldsinny, and now the Comber Wrass.—A. H. PATTERSON (Great Yarmouth).

#### GASTROPODA.

**Appetite of Slugs for Green Material.**—Four large black Horse Slugs (*Arion ater*) lived in a fish-globe tied down with a piece of white canvas. They fed upon green leaves of various kinds, and spent their time at the bottom of the globe. In the summer a piece of green muslin was substituted for the canvas. The animals left their food and began to feed on the covering, of which little remained a short time later. They escaped and wandered to the ceiling, where they remained for several days before meeting on a green portière, on which they began to feed. These four always seemed willing to consume green materials, as though the colour were sufficient to guarantee the substance being edible.—(Miss) M. CALLARD (Dulwich).

#### INSECTA.

**A London Bee-hive.**—We have kept Bees at No. 22, St. George's Road, Regent's Park, for eight years on a leaden roof, in a frame bee-hive. No swarming has occurred as far as is known, but the honey output has been good, from 15 to 27 lb. a year. The quality has also been good, the sections weighing 1 lb. and over, and fetching normal prices. The Bees originally came from Hampshire.—(Mrs.) J. K. SPIERS.

## NOTICES OF NEW BOOKS.

*British Birds.* Written and Illustrated by A. THORBURN, F.Z.S.  
In four volumes. London: Longmans, Green & Co. 1915.  
£6 6s. net; large paper edition, £12 12s. net.

MR. THORBURN'S beautiful illustrations of birds have long been familiar, and it is a pleasure to find him writing as well as illustrating a book on the perennially-interesting subject of our native species. We have no hesitation in saying that the work is easily the best on the subject that has ever been produced with coloured illustrations and of a popular style. In the first volume, now before us, almost all the *Passeres* are dealt with, all, in fact, except the Larks and some of the Crows. Several species are illustrated on one page, the background being wisely subordinated to the figures, which are independent and not grouped in one picture. The colouring is of course excellent, and generally has full justice done it by the reproduction, and the illustrations are all to scale. The attitudes are generally, though in one or two cases not quite, happy; for instance, the Golden Oriole certainly is not ordinarily seen in the somewhat Blackbird-like pose here given it; in actions, as in habits, it is more like a Warbler than a Thrush, in spite of its size. We think, also, that the beginner, to whom this book will especially appeal, would have found it more helpful if the name of each bird had been placed immediately under the figure, instead of in a line with it at the bottom; while it would have been better to use the words "male and female," or even the initials m. and f., rather than the unfamiliar scientific signs ( $\sigma$   $\varphi$ ). The letterpress is avowedly subordinate to the plates, but is generally adequate for a book of this character, and Mr. Thorburn has some original observations, such as that upon Nightingales singing on a cold night in a temperature of thirty-eight degrees.

In the preface, with an honesty which is unfortunately not so universal among authors as it might be, he has fully acknowledged his indebtedness to the writers of other works on the subject, and indicated the sources whence those who have acquired an acquaintance with our birds from this most meritorious work of his can proceed to amplify their knowledge of the subject and become full-blown British ornithologists.

